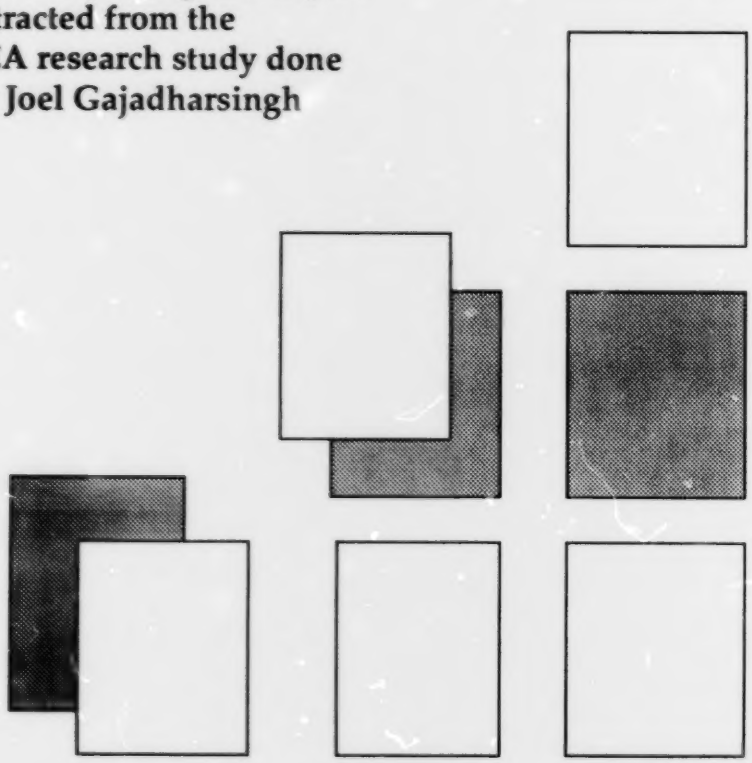
The Multi-grade Classroom: Myth and Reality

A Canadian study

A Canadian Education Association Report

Edited by Margaret Gayfer
extracted from the
CEA research study done
by Joel Gajadharsingh



91-04225/

The Multi-grade Classroom: Myth and Reality

A Canadian study

A Canadian Education Association Report

Edited by Margaret Gayfer
extracted from the CEA research study done
by Joel Gajadharsingh

CEA Mission Statement

The Canadian Education Association pursues the improvement of education and serves the education community by providing opportunities to study issues of common interest; to share ideas, experiences and information; to establish and maintain linkages with government bodies, non-government agencies and individuals; to analyze trends and directions through research; and to participate in learning activities.

© The Canadian Education Association/
Association canadienne d'éducation
Suite 8-200, 252 Bloor Street West, Toronto, Ontario M5S 1V5

1991

ISBN: 0-920315-48-8

Printed in Canada

Ce texte est publié en français sous le titre : Les classes multiprogrammes, le mythe et la réalité

List of Tables

Table 1 -	Respondents by Province/Territory	4
Table 2 -	Respondents by Locale	4
Table 3 -	Distribution of Total Number of Multi-grade and Single-grade Classrooms by Locale	33
Table 4 -	Distribution of Total Number of Classrooms in a School District	35
Table 5 -	Distribution of Total Enrolment in Single-grade Classrooms According to Locale	35
Table 6 -	Distribution of Superintendents' Responses to Number of Multi-grade Classrooms According to Locale	35
Table 7-	Distribution of Total Enrolment in Multi-grade Classrooms According to Locale	35
Table 8 -	Distribution of Number of Multi-Classrooms by Grade Combination and Locale	36
Table 9 -	Frequency of Teachers' Responses Indicating Enrolment in Their Multi-grade Classrooms	38
Table 10 -	Teacher Respondents' Perception of Areas of Instruction in which Teachers Need Assistance	43
Table 11 -	Frequency of Teachers' Assessments of Psycho-social Development of Students in Multi-grade Classrooms	45
Table 12 -	Principals' Assessment of Psycho-social Development of Students in Multi-grade Classrooms	45
Table 13 -	Frequency of Teachers' Assessments of Cognitive Development of Students in Multi-grade Classrooms	47
Table 14 -	Principals' Assessments of Cognitive Development of Students in Multi-grade Classrooms	47

Contents

Chapter 1
Introduction: The Message Is Clear 1
Purpose, Design and Data Collection 3
The Challenge Won't Go Away 6
Multi-grades: A Catalyst for Change? 8

Chapter 2
Review of the Literature 9
Attitudes toward Multi-grade Classes 11
Psycho-social Development of Students 14
Cognitive Development of Students 15

Chapter 3
Multi-program Classrooms in Quebec
by Janine Hohl 19
Multi-program Classrooms in Sparsely Populated Areas 21
Multi-program Classes in Urban Settings 22
Advantages and Disadvantages 23
Advantages of the Multi-program Class 24
Best Conditions for Multi-program Classes 26
Fundamental Questions to Face 28

Chapter 4
Interpretation of the Results 31
Demographic Data from Superintendents 32
Multi-grades and their Combinations 34
Teacher Respondents 37
Where Teachers Need Some Help 42
Effects of Multi-grade Classrooms on Psycho-social and Cognitive Development 44
A View from the Classroom 48

Chapter 5
Conclusions and Recommendations 51
Phase I: Demographic Data 51
Phase II: Data on Pedagogy 53
Recommendations 55

A Few Words as Foreword

DO CHILDREN really receive as good an education in multi-grade classes as they do in a single grade one? This question, the CEA Communications Committee felt, is often asked by parents; thus the committee recommended that the Canadian Education Association gather information and produce a report tackling this topic.

The CEA asked Dr. Joel Gajadharsingh, of the Department of Curriculum Studies, College of Education, University of Saskatchewan, to carry out the task. He designed an "exploratory study" to gather, by questionnaires, data on the extent to which multi-grade classrooms exist across Canada. He also looked at what grades were combined, in what kinds of school districts, what methodologies are used in such classrooms and what teacher and principals think about the effects of the multi-grade class on the students' affective and cognitive development.

The Association then contracted Margaret Gayfer to condense Dr. Gajadharsingh's comprehensive study into a shorter,

more compact report. (Ms. Gayfer is a former editor of education magazines with Maclean Hunter Canadian Publishing, and author of a number of books and reports done for the Ontario Ministry of Education, the Ontario Ministry of Skills Development, the International Council of Adult Education and the Canadian Education Association.) The result is this publication, which, we hope, you will find informative and useful in grappling with the challenge of a prevalent "phenomenon" - the multi-graded or combined classroom.

The Multi-grade Classroom: Myth and Reality includes a review of literature written in English on the subject (Chapter 2) and a review of literature written in French (Chapter 3), which was kindly done for the CEA by Janine Hohl, professor with the Department of Educational Psychology and Andragogy, Faculty of Education, Université de Montréal, who has herself done studies on the multi-graded classroom in Quebec. The main body — or the interpretation and analysis of the data — is found in Chapter 4. A summary of the results and six recommendations in Chapter 5 conclude Dr. Gajadharsingh's findings.

Robert E. Blair
Executive Director
Canadian Education Association
April 1991

Dr. Gajadharsingh would like to acknowledge the help of two graduate assistants, Cheryl Yuzik and Cameron Gajadharsingh. The full 138-page study on multi-grade classrooms is available from Dr. Gajadharsingh, College of Education, University of Saskatchewan, Saskatoon, Sask. S7N 0W0

Chapter 1

Introduction: The Message Is Clear

MULTI-GRADE CLASSROOMS are here to stay. They should not be a matter of short-term administrative necessity, an expedient stop-gap; nor are they an archaic throwback to the one-room rural school. The number of multi-grade classrooms has been increasing dramatically across all types of school districts, especially in urban areas, and in districts with under 200 classrooms. One out of every seven classrooms is a multi-grade , and approximately one out of every five students is enrolled in a multi-grade class. And that's a conservative estimate. The message is clear: educators need to take multi-grades as seriously as they do single-grades. This means giving priority to a pedagogical approach, to the structure and organization of such

classrooms, to the creation of different curricula and support material, and the possibility of a reduced load for teachers of multi-grade classes.

These statements are among the key findings of this study of multi-grade classrooms across Canada. It was sponsored by the Canadian Education Association and designed and carried out by Dr. Joel Gajadharsingh of the Department of Curriculum Studies in the College of Education, University of Saskatchewan. The work was designed as an exploratory study to get demographic, administrative and pedagogical information from school districts representing rural, urban and combined (those whose boundaries extend over both rural and urban areas) districts. The response rate to the questionnaires developed for the three groups that provided the data was high: 89.9% of the superintendents or directors of education, 83% of the principals of schools with multi-grade classrooms, and 80% of the teachers in such classrooms replied.

The study came about in response to a recommendation from the CEA's Communications Committee to gather information on the advantages and disadvantages of being educated in a multi-grade class and, particularly, to seek opinions on the question raised most often by parents: Do children get as good an education in a multi-grade classroom as they do in a single grade one? The answer is "yes." The data bear out the findings of research about the many positive aspects of teaching and learning in a multi-grade class, as cited in the two literature reviews done for the study.

In assessing the psycho-social development of students in multi-grade classes, more than 80% of respondents (teachers and principals) stated that multi-grade students were comparable or superior to their counterparts in single-grades in ten common traits. More than 85% of the same respondents assessed the cognitive development of multi-grade students, in the four disciplines listed, as being comparable or superior to students in single-grades.

These findings, and those of studies examined in the literature reviews, indicate how important it is for school boards to demystify "multi-gradeness" through a positive information and public relations program. The concerns of parents, and teachers, usually relate to their intuitive hunches about the effect of being in a multi-grade classroom on cognitive development and academic achievement. The literature shows that parents are much less apprehensive and more supportive of the value of the multi-grade as an alternative to the standard single-grade when they understand what's going on. This positive approach includes discussions at the school on interactive learning, on how the multi-grade provides academic content similar or equal to the single-grade, and on the student's likely gain in self-concept and in such skills as independent study habits, responsibility and co-operation with others.

Purpose, Design and Data Collection

The study was meant as an exploratory study to determine the extent to which multi-grade classrooms exist in school districts in Canada. Specifically, the design had five components:

1. to obtain demographic information on multi-grade classrooms across Canada;

2. to describe the type (or classification) of grades and grade combinations in these schools;

3. to identify the range of methodological procedures used and the instructional areas in which teachers need assistance;

4. to elicit the opinions of experienced teachers and principals on the psycho-social and cognitive development of students; and

5. to derive recommendations on curricula design, the organization of students for instructional purposes, the training of teachers for the multi-grade classroom, and needed research.

Three groups of respondents were identified as providers of relevant data: superintendents of public and separate school districts, principals of schools with multi-grade classrooms, and teachers of multi-grade classes. To select a representative sample of rural and urban school boards and districts from each of the geographic areas, the following stratified random sampling procedures were used.

All school districts in the *CEA Handbook* were categorized by locale as rural, urban and combined (those whose boundaries extend over both rural and urban areas). Because of the extensive total number (968) and the broad range in each province (from four to 214) of the school districts listed, it was decided that a random sample of 10% of the total number from each of the three locales was adequate for the study. In locales where the random selection procedure resulted in no school district, at least one was added so that each locale in each geographic area was represented. The superintendent or director of education in each selected district or board was asked to respond to a questionnaire designated as Phase I.

These directors were asked to submit a list of all the schools in their jurisdictions that contained multi-grade classrooms. All schools were then categorized as rural, urban or combined. Because of

Table 1
Respondents by Province/Territory

Province/ Territory	Teachers (N = 380) %	Principals (N = 162) %	Superintendents (N = 93) %
Alberta	6.8	7.4	12.9
British Columbia	7.6	7.4	10.8
Manitoba	8.2	8.6	9.7
Saskatchewan	7.9	7.4	10.8
New Brunswick	4.2	3.7	5.4
Newfoundland	0.5	1.2	3.2
Northwest Territories	1.6	1.2	2.2
Nova Scotia	6.1	6.8	7.5
Ontario	47.1	43.8	20.4
Prince Edward Island	1.1	1.2	2.2
Quebec	8.9	11.1	15.1

* *There were no school boards in Yukon when the study was done.*

Table 2
Respondents by Locale

School District	Teachers (N = 358) %	Principals (N = 158) %	Superintendents (N = 91) %
Rural	33.2	36.7	31.9
Urban	63.4	60.8	40.7
Combined	3.4	2.5	27.5

previously established protocols in many school districts, the superintendent was asked to select randomly 10% of these schools. The principals and the teachers of multi-grade classes were asked to respond to questionnaires designated as Phase II. Table 1 gives the distribution of all respondents by province or territory, and Table 2 shows the distribution of respondents by the three types of school districts.

Data Collection

The data were collected through pre-tested questionnaires. Because of the nature and scope of the data for a descriptive study, the SSPS Frequencies and Descriptive Programs were used for analysis.

Of the 107 superintendents selected for the study, 93 (89.9%) returned completed questionnaires. Responses were received from every geographic area except Yukon which, at present, has no school boards. These respondents were asked to give demographic data on the incidence of multi-grade classrooms in their districts, specific information on the kinds of schools (elementary, junior high, senior high, etc.) with multi-grade classrooms, and on principals and teachers directly involved with such classrooms. The frequency of responses for all superintendents was highest for Ontario (20.4%), followed by 15.1% for Quebec, 12.9% for Alberta, and 10.8% for both British Columbia and Saskatchewan (see Table 1).

The sample included superintendents or directors of education from rural (31.9%), urban (40.7%) and combined school districts (see Table 2). From the responses received from the superintendents or directors of education, we find that the sample came from rural boards in all the provinces and the Northwest Territories. (24.1% of the rural board superintendents responding were in Saskatchewan, 13.8% in each of British Columbia and Quebec, 10.3% in each of Alberta and Newfoundland, and 6.9% in each of Nova Scotia and Ontario.) The sample also contained replies from urban boards in all provinces and the Northwest Territories except New Brunswick, Prince Edward Island and Newfoundland In descending order of percentage, the urban superintendents' responses came from Ontario (24.3%), Alberta (21.6%), Manitoba and Quebec (13.5% each) and Saskatchewan (8.1%). Combined school district superintendents were found among the replies in all geographic areas except Saskatchewan, Newfoundland and the Northwest Territories: Ontario (28%), Quebec and New Brunswick (each 16%), and Manitoba and Nova Scotia (each 12%).

Of the randomly selected group of 195 principals who had multi-graded classrooms in their schools 162 (83%) responded to the questionnaire. They were asked for data on administrative approaches in the organization of multi-grade classrooms, specific grade combina-

tions, curricula materials used, and the selection of teachers. Their opinions were sought on the instructional strategies teachers used, areas of instruction where teachers need some help, and the effects of multi-grade classrooms on the psycho-social and cognitive development of students. Of the random sample of 475 teachers with experience of multi-graded classes, 380 (80%) replied to their questionnaire. They were asked for data on professional training, opinions on optimum enrolments, their most useful instructional strategies, their use of curricula and other instructional materials, and their opinion on how the multi-grade classroom affected the psycho-social and cognitive development of students.

The Challenge Won't Go Away

The multi-grade classroom has been around for a long time as an organizational unit in rural and urban areas plagued with fluctuating enrolments. Even though these classes account for only 17.17% of the total of the 32,702 classrooms reported in the CEA study, the significance of the multi-grade classroom lies in its fast-growing hold in school districts across the country. This growth demonstrates again the impact of social changes on the school system: financial constraints, uneven fluctuations in enrolment, a decrease in birthrate, and the mobility of populations in certain school districts and within individual systems. There is no sign that these variables will go away. They will continue to challenge educators for adequate specialized staffing; for alternative ways of organizing space, students and staff; and for more specific methods of designing curricula to meet the needs of students, teachers and school systems.

Being propelled into the search for different ways of organizing their school communities is nothing new for school administrators. The most obvious change was the process of centralizing schools. But even here the phenomenon of the multi-grade classroom remained unchanged. Centralization dramatically affected the student population within a given school. As the population fluctuated or stabilized within grades, schools often found that enrolments were either too small or too large to match the desired pupil-teacher ratio.

This condition continues to exist. It is heightened to almost uncontrollable proportions in rapidly developing urban areas where the population appears to be moving to new suburbs. In such situations, the inner city, or older areas of the city, often experience drastic declines in enrolment, while schools in the suburbs experience enormous increases. The administrative approach for dealing with enrolment ups and downs has been to combine students from two adjacent

grade levels with one teacher to form a multi-grade classroom.

Although the increasing number of such classrooms is making the multi-grade class something of a norm in many school districts, it appears that neither curriculum experts nor school personnel have adequately addressed the many complex problems inherent in teaching such classes. Teacher training institutions do not acknowledge the multi-grade classroom in their instructional courses, and their graduates have been, and still are, thrown unprepared into a multi-grade classroom. The majority of teacher respondents to the study had no special training for their job, very few got help from in-service work, and others reported that specific programs on this kind of classroom were not available. Some 43% of teachers currently in multi-grade classrooms had only four or five years of teaching experience.

The study raised another issue for the multi-grade classroom: Is this alternative organizational pattern the result of a studied philosophical and pedagogical approach that supports the development of curriculum materials designed especially for the special needs of multi-grade teaching and learning? The fact that the answer is "no," as the following data show, points to some important priorities for educators as pointed out in the study's recommendations.

The main reasons superintendents and principals gave for combining grades are based on short-term administrative considerations rather than on long-term pedagogical ones: enrolment, balancing class size, budget constraints, and use of available staff and space. Pedagogical reasons were a secondary category, but many respondents cited the advantages of combined grades for grouping students according to ability, meeting the individual needs of students, opportunities for independent study, separating problem students, and for instituting a family grouping philosophy. The challenge here appears to be working out a closer integration of administrative and pedagogical factors. Similarly, no clear philosophical reasons emerged for the grouping of students within a multi-grade class. The majority of teachers group their students heterogeneously.

The study found no evidence of any special curricula developed for multi-grades. The majority of superintendents and principals stated that no such curriculum materials exist and that teachers follow the regular single-grade curriculum. Over 80% of teachers agreed, and stated that they spend an enormous amount of time on modifying and integrating the regular curriculum for their multi-grade classes. Teachers' written comments indicate the lack of stated philosophical or pedagogical guidelines for organizing multi-grades or for the best combination of grades. Not surprisingly, the biggest problems for teachers, and the areas in which they want help, are integrating curricula, developing a multi-grade curriculum, and teaching strategies for multi-grades.

Multi-grades: A Catalyst for Change?

The CEA study opens up for discussion and action a range of important issues for the future of the multi-grade classroom and, perhaps, for setting the conditions of change in education. As Janine Hohl says in her literature review on multi-program classrooms in Quebec (Chapter 3), "By their very existence, multi-program classrooms have forced us to debate some basic philosophical questions: the importance of the curriculum, the advantages of homogeneous or of heterogeneous groupings, the value given to socio-affective factors and peer relationships in the learning process, the involvement of teachers in the development of teaching methods, and the involvement of parents."

The multi-grade classroom does raise some fundamental questions for the education system. In this sense, it is not just a stop-gap arrangement; it also serves as a way to analyze - and to act as a catalyst for change in - the present organization of education.

Margaret Gayfer
April 1991

Chapter 2

Review of the Literature

THE CEA STUDY uses "multi-grade" to describe classrooms in which two or more consecutive grades are combined under one teacher because the term is widely used in the Canadian educational system. However, this type of organization has had a variety of names. Some provinces refer to it as a split class, a double-grade class or a multi-program class. None of these terms is a recognized descriptor in any index. The most closely related terms are multi-age, multi-grade, and family groupings. The literature also introduces such terms as vertical, vertical-age and cross-age groupings.

Stehney[1] described multi-age groupings as "an arrangement whereby children of various ages, abilities and interests are put to-

gether in a learning situation in a school on the basis of *philosophy*, not from administrative convenience." Mycock[2] reinforced Stehney's statement when he stated, "Multi-age grouping is a method of school organization in which children of different ages are, as a deliberate educational policy, placed together in the same class." In either case, the group is heterogeneous and multi-aged.

One could conclude, philosophically, that whatever pattern of organization educators choose to adopt, the pattern should be the result of studied educational policy rather than administrative convenience. There should be sound pedagogical and psychological reasons for bringing students of different ages and abilities into a single classroom. These reasons must be not only stated but shared with curriculum experts, teachers, principals, superintendents, parents and students.

The multi-grade classroom began with the small one-room school. As centralization became a pivotal method of dealing with increasing enrolments and the high cost of education, the one-room school almost disappeared. Although organizational and administrative changes have occurred dramatically, and with some regularity, instructional practices have not changed over the years. Grouping students in the one-room school, for example, was a necessity. However, even though educators have come to regard learning as an individual process, teaching in our schools still takes place in a group setting.

Over the years, educators have advocated and experimented with a variety of methods for grouping students, but the one that has survived in both elementary and secondary schools is the classification of children by grades. The academic requirements for a grade, or a year of progress, or a chronological year in a child's life are used synonymously, especially for school purposes. The grade system remains the context and point of reference for the emergence of the multi-grade classroom. It was, and still is, usually expedient to combine two or more grades in times of educational change, as well as in times of financial constraint. This administrative practice has increased at a rapid rate in recent years, and has resulted in enormous increases in the number of multi-grade classrooms, especially in urban areas.

These changes in education, and especially the development of multi-grade classrooms, gave rise to some serious concerns among parents, teachers and principals about the effects these changes and such classrooms have on students. As administrators, teachers and parents deliberated these issues, the lack of relevant research information resulted in the development of "intuitive feelings/attitudes" toward the multi-grade classroom.

This literature review examines available studies that shed light on: (1) attitudes of parents, teachers and administrators, (2) psycho-

social development of students in multi-grade classes, and (3) the cognitive development of such students.

Attitudes Toward Multi-grade Classes

Attitudes of Parents

Marzolf[3] found that although most parents accept the theory of multi-grade groupings, they do not care for its practice. His study indicated that both the parents of an experimental group and of a control group had similar negative attitudes. The same was true for the teachers of both groups. The conclusions point to a familiar paradox. Even though students in multi-grade classes do as well as, and in some cases better than, students in single-grade classes, the parents and teachers do not accept this fact. A further implication is that parents and teachers had not received any positive statements about multi-grading, and that most publicity was negative, inaccurate, or misleading.

Wilcox[4] designed a questionnaire to determine the attitudes of parents toward multi-grouping. The findings show that the parents did not support the multi-grade organization. Even parents with some experience of such classes, who agreed with the principles of multi-grade grouping, and who were pleased with their children's experience, remained apprehensive. Chace's view[5] that parents' negative bias comes from unfounded assumptions was supported by the fact that the bias was held by parents whose children were high achievers in multi-grade classes.

Negative attitudes generally stem from practical considerations about how children are taught and their academic achievement. Moser[6] noted that parents wonder whether or not their children's acquisition of knowledge is similar to that of students in single-grade classes. The Edmonton Public School Board's evaluation of some aspects of multi-grading (cited in Craig and McLellan[7]) found that parental responses were evenly distributed along a continuum of overall satisfaction/dissatisfaction with their children's placement in a multi-grade class. Some parents believe that the teacher does not have time to give equal attention to both groups.[8] Presumably, a parent feels that no learning is taking place if the teacher is not engaged in direct instruction. What parents see as a disadvantage may be an advantage, because much of the research shows that students develop such traits as independence, dependability and self-reliance.

Public Relations Program Needed

Because parents generally have negative feelings about multi-graded practices, several authors have suggested that an effective public relations program is needed. Mirsky[9] stated that the initial opposition of parents of gifted children changed when they were informed that the teacher was willing to provide instruction for individual abilities. Similarly, Acheson[10] found that parents' attitudes changed when teachers explained how the multi-grade class provides an academic content similar or equal to that of single-grade classes. Perras[11] stated that information is essential for parents who, at first, are rarely in favour of multi-program classes. Schools should minimize apprehension and do follow-up with parents during the year.

If attitudes can be changed, as these writers suggest, it is up to superintendents, principals and teachers to design an ongoing public information program to demystify multi-grading. Parents need to know the philosophical principles as well as the pedagogical and psychological reasons for placing students in these classrooms. Because parents are concerned about the quality of education, the school should include explanations of relevant research on the positive effects of the multi-grade class on psycho-social and cognitive development. All information should be presented in clear, jargon-free language.

Attitudes of Teachers

The research suggests that teachers with no experience of multi-grade classes are reluctant to teach them. Chace[12] reiterated what he wrote about parents, "The opinions expressed by teachers are the result of bias or unfounded assumptions." He found teachers were reluctant to transcend the boundaries of each class. Marzolf[13] indicated that most teachers did not favour the multi-grade class because they believe it places a heavy burden on them and because students receive an inferior education.

The evaluation study by the Edmonton Public School Board (cited by Craig and McLellan[14]) concluded that teachers generally would prefer to teach in a regular class and would like to see multi-grade classes decrease in number or be eliminated completely. A survey of working conditions by the Alberta Teachers' Association[15] stated, "The strain of below optimum conditions (such as large classes and split grades) does affect long-term teaching efficiency and is marked by a systematic decline of teacher job enthusiasm with increasing years of experience."

Generally, teachers of multi-grade classes and of single-grade classes hold the same opinion. Both groups overwhelmingly prefer single classes, according to the study by Brown and Martin.[16] Strauber[17] found that because the multi-grade class does not conform to preconceived ideas of what an academic class ought to be, administrators have difficulty in evaluating them and, therefore, avoid supervising them. This observation indicates that teachers of multi-grade classes are likely to develop feelings of neglect, isolation and negative attitudes because of a lack of support. This lack also shows in the dearth of curricula materials for multi-grade classes, and the fact that teachers must prepare their own instructional materials.[18] Teachers feel that such an extra workload places greater demands on them than on teachers of single-grade classes.

Positive Attitudes

Although ample evidence exists that teachers have legitimate reasons for negative attitudes towards multi-grade teaching, there is enough evidence that there are teachers who do have positive attitudes. Acheson[19] stated that teachers have a positive perception of multi-grades when they are implemented from a stated philosophical base rather than from administrative expediency. Teachers with some experience with multi-grades stated that the environment prompted them to change their teaching styles.

The study by Gajadharsingh and Bany[20] of multi-grade classrooms in Saskatchewan found that approximately 35% of the teachers surveyed volunteered to teach multi-grades for the following reasons: previous experience with multi-grades, teaching enjoyment, a challenging task, good experience, and that they feel more effective when teaching multi-grades. Most of the teachers who did not volunteer said they would teach such a grade only under certain conditions: a smaller pupil-teacher ratio, support from administrators, that specific curricula and related instructional materials be provided, and a reduced teaching load so that planning and preparation could be done effectively.

Attitudes of Administrators

Very little research data were available on how administrators perceive multi-grading. What exists indicates consensus with teachers. In the Edmonton Public School Board's evaluation, principals agreed with teachers that some multi-grade classrooms increased workload.

Half of the principals surveyed (42 out of 83) said it was inadvisable to have multi-grade classrooms in elementary school.[21]

Psycho-social Development of Students

Researchers have found the multi-graded classroom a source of interesting information on children who have been educated partly or totally in such a setting. Most of the research, however, centred on psycho-social development. Researchers generally agree that students in multi-grade classes tended to be higher or better than those in single-grade classes in the following affective areas: study habits, social interaction, self-motivation, co-operation, and attitudes toward school.

Some writers also suggest that an increase in a sense of security and belonging should be evident, that social and personal development should be enhanced, and that the range of ages should make interaction and friendship easier across age or grade levels. Mycock[22] and others also indicate that children in multi-grades may operate as both leader and follower, exhibit more responsibility, confidence and co-operation, and develop higher aspirations and good work habits. Craig and McLellan[23] cited the research by the Edmonton Public School Board that found multi-grade classes to be an effective method of promoting independence in students' work. In their study of 112 elementary school students, Johnson, Johnson, Pierson and Lyons[24] found that multi-age group members showed higher motivational levels towards learning the assigned material than homogeneous group members.

Some research has examined the accuracy of the claims made by theorists and practitioners who write about multi-age education. An increased sense of security of belonging was found in Mycock's study (cited by Ford[25]) of four primary schools, each with 150-180 students. The suggestion that multi-grade grouping increases social and personal adjustment has not been verified by research. Ford also cites other studies, none of which found any differences in adjustment between hetero- and homogeneous groupings. In his junior high school study, Junell[26] found no greater casual interaction among oldest and youngest than in single-grade classes. However, he claimed that students in multi-grade classes tended to improve in self-concept which, in turn, affected their achievement and attitudes towards school. Findings about self-concept are mixed. Some studies find no

difference between the two types of classes. However, the literature review by Marshall[27] showed that self-concept and attitude toward school were more positive in multi-grade situations.

Anxiety and levels of stress showed as no different in the two types of classes in Mycock's study (cited in Ford[28]). Other studies report a great deal of child-child and group interactions. For Ford and Mirsky[29] this interaction is essential because "the advantage of multi-age grouping procedures lie in the affective domain, in personal and social growth and emotional well-being." This view is supported by Hull.[30] His three-year study found that student attitudes toward school, academic achievement, social and personal adjustments were greatly improved in multi-grade schools.

Other research studies repeat many of the findings reported in this review. A conservative extension of the observations by Marshall[31] of improved affective development in students may well reflect most of the research in this area. The specific traits that researchers have isolated as comparable or superior are independence, dependability, confidence, responsibility, co-operation with others, interaction skills, social skills, study habits and attitudes toward school.

Cognitive Development of Students

The literature contains abundant information on affective development of multi-grade students, but there are relatively few studies on cognitive development. The results of available studies generally indicate that on achievement tests students perform just as well or even better than those in single-grade classes. For example, the comparative study by MacDonald and Wurster[32] found no statistical differences in the reading skills of the two groups. The study by Finley and Thompson[33] found no significant differences between students in reading or arithmetic skills.

Johnson, Johnson, Pierson and Lyons[34] found that academic achievement was not affected by placing students in multi-age groupings. Rehwoldt[35] concluded that the academic achievement results of multi-grade students exceeded those of single-grade students in reading, arithmetic and language. On the other hand, Forshay[36] found that single-grade students made significantly higher grades in reading, arithmetic and language usage.

Chace[37] also compared achievement in both types of classes at elementary school. He concluded that multiple-grade groupings have a slight positive academic advantage over single-grade groupings, can compare favourably with single-grade groupings, and create no liabilities for academic achievement. Brown and Martin[38] studied 418

students in single- and multi-grades. The findings showed that 55% had superior performances in the multi-grades; 25% showed no significant differences; and only 20% favoured single-grades. When the scores of the Canadian Tests of Basic Skills were used, the researchers concluded that, on a school-by-school analysis, there is an 80% chance that the achievement of multi-grade students is equal or superior to that of students in single grades.

The Gajadharsingh study[39] used the CTBS to examine the performance of 4,407 students in multi- and single-grade classes. The combined results clearly indicated that the achievement of multi-grade students was significantly higher in vocabulary, reading, mathematics problem-solving and mathematics total.

Acheson's report[40] consistently showed that multi-grade students demonstrate outcomes that are at least equal to those in single grades, and that research reviews consistently fail to find any better achievement in single-grade classes when compared with multi-grade classes. Almost all the research shows that academic achievement of multi-grade students is equal or superior. Usually the comparisons between the two kinds of classrooms use achievement scores from tests in mathematics, language arts, vocabulary and spelling. The CEA study used mathematics, language arts, science and social studies to elicit the opinions of principals and teachers on the achievement of students in multi-grade classrooms.

Footnotes for Chapter 2

1. V. A. Stehney, "Why Multi-age Grouping in the Elementary School?" *National Elementary School Principal* 49 (January 1970).
2. M. A. Mycock, "Vertical Grouping," in Vincent R. Rogers (ed.) *Teaching in the British Primary School* (New York: Macmillan, 1972).
3. A. Marzolf, "Attitudes Toward and Student Achievement in Multi-grade Classrooms," Ph. D. dissertation, University of San Diego, 1978.
4. J. A.Wilcox, "A Search for the Multi-grade Effects of Grouping upon Growth and Behavior of Junior High School Pupils," Ph. D. dissertation, Cornell University, 1961.
5. E. S. Chace, "An Analysis of Some Effects of Multiple-grading Groupings in Elementary Schools," Ph. D. dissertation, University of Tennessee, August 1961. (Ann Arbor, Michigan: University Microfilm, abstract 22: 3544.)
6. D. Buchinger, "Multi-grade Classrooms? In the 1980s?" *Lutheran Education* 123 (1981), pp. 152-157.
7. C. Craig and J. McLellan, "Split Grade Classrooms: An Educational Dilemma," *Education Canada* , Winter 1987, pp. 4-9.
8. J. Perras, "La classe combinée: du concept à la réalité," Service des études, Montreal Catholic School Board, June 1983.

9. N. Mirsky, "Starting an Inter-age Full-time Gifted Class," G/C/T 33 (1984), pp. 24-35.

10. J. F. Acheson, "Memorandum on Combined Grades," Program Services, Edmonton Catholic School Board, October 1984.

11. J. Perras, *op. cit.*

12. E. S. Chace, *op. cit.*

13. A. Marzolf, *op. it.*

14. C. Craig and J. McLellan, *op. cit.*

15 Alberta Teachers' Association, *Third Working Conditions Survey* (Edmonton: ATA, June 1986).

16. K. G. Brown and A. Martin, "Student Achievement in Multi-grade and Single-grade Classes," *Education Canada*, Summer 1989, pp. 10-13, 47.

17. S. Strauber, "Observing and Evaluating the Multilevel Foreign Language Class — Some Guidelines and Explanations," *NASSP Bulletin* 69 (1985).

18. J. Perras, *op. cit.* and S. Strauber, *op. cit.*

19. J. F. Acheson, *op. cit.*

20. J. L. Gajadharsingh and B. Bany, "A Demographic Study of the Multi-grade Classroom in Saskatchewan," Information and Research Report, Department of Curriculum Studies, College of Education, University of Saskatchewan, Saskatoon, 1984.

21. C. Craig and J. McLellan, *op. cit.*

22. M. A. Mycock, *op. cit.*

23. C. Craig and J. McLellan, *op. cit.*

24. D. Johnson, R. Johnson, W. Pierson, and V. Lyons, "Controversy Versus Concurrence Seeking in Multi-grade and Single-grade Learning Groups," *Journal of Research in Science Teaching* 33:9 (1985), pp. 835-848.

25. B. E. Ford, "Multi-age Grouping in the Elementary School and Children's Affective Development: A Review of Recent Research," *Elementary School Journal* 78: 2 (November 1977), pp. 149-159.

26. J. S. Junell, "An Analysis of the Effects of Multigrading on a Number of Noncognitive Variables," doctoral dissertation, University of Washington, Seattle, Washington, 1970. *Dissertation Abstracts*, Vol. 32 (1970).

27. David Marshall, "Closing Small Schools or When is Small Too Small?" *Education Canada*, Fall 1985, pp. 10-16.

28. B. E. Ford, *op. cit.*

29. N. Mirsky, *op. cit.*

30. J. H. Hull, "A Three Year Study in Multi-grade Teaching," *The Nation's Schools*, 1:1 (July 1958).

31. D. Marshall, *op. cit.*

32. P. A. MacDonald and S. R. Wurster, *Multi-grade Primary Versus Segregated First Grade Effects on Reading Achievement* (Arizona: Arizona State University, June 1974).

33. C. J. Finley and J. M. Thompson, "A Comparison of the Achievement of Multi-graded and Single-graded Elementary School Children," *Journal of Education Research* 56:9 (May-June 1963).

34. D. Johnson , R. Johnson, *et al., op. cit.*

35. W. Rehwoldt, "Aspects of Multi-grade Teaching in the Elementary School," Ph. D. dissertation, University of Southern California, Los Angeles, 1957.

36. A. W. Forshay, "Interage Grouping in the Elementary School," Ph. D. dissertation, Teachers College, Columbia University, New York, 1948.

37. E. S. Chace, *op. cit.*

38. K. G. Brown and A. B. Martin, *op. cit.*

39. J. L. Gajadharsingh, "The Cognitive Profiles of Students in Multi-grade and Single-grade Classrooms as a Function of Gender and Locale," Information Research Report, Department of Curriculum Studies, College of Education, University of Saskatchewan, Saskatoon, 1987; and J. L. Gajadharsingh and C. Melvin, "The Multi-grade Classroom and Student Achievement," *School Trustee* 40:4 (1987).

40. J. F. Acheson, *op. cit.*, p. 79.

Chapter 3

Multi-program Classrooms in Quebec

by Janine Hohl
Department of Educational Psychology and Andragogy, Université de Montréal

MULTI-PROGRAM CLASSROOMS, even if marginal in number and created essentially in response to a need, touch on some of the central problems faced by school systems.[1] These classrooms are a consequence at the school board level of social changes: the decrease in birthrate, immigration to large urban centres, exodus of young families to the suburbs, and the resulting desertion of inner cities and rural areas.

By their very existence, multi-program classrooms have forced us to debate some basic philosophical questions. These include the importance of the curriculum, the advantages of homogeneous and heterogeneous groupings, the value given to socio-affective factors and peer relationships in the learning process, the involvement of teachers in the development of teaching methods and the involvement of parents in their child's education also enter the debate. In a wider context, multi-program classrooms set the conditions of change in education.

The multi-program classroom is now the official term in Quebec, but over the years it has been called the one-room rural school, and the multi- or centri-age classroom. According to the Quebec Ministry of Education's 1985 terminology of education, the multi-program classrooms is "a class that gathers, under one teacher, in the same conditions of time and space, students registered in programs of study that correspond to different grades." It is not by chance that "program" is used in the latest definitions, because the notion of program is central to the debate on the pros and cons of such classrooms.

In the 1960s, the Parent Report of the Royal Commission on Education in Quebec did not stress the single classroom as the ideal, but recommended a division of elementary grades into two cycles. It also recommended flexible promotion to allow for individual student pace and abilities. The needs and abilities of the child were central, not the program for a specific grade. Even if the regulation adopted by the government in 1965 confirmed the need to respect the child's learning pace and for teaching to be individualized, it nevertheless reaffirmed specific grades and levels to which specific programs were added later.

In 1971, Bill 27 endorsed the grouping of students by age and grade. At the same time, rural schools were being threatened by the falling birthrate even more than by urbanization. Eventually the more populated areas, particularly city centres, felt the impact of declining enrolment. At the end of the period from 1960-1980, school enrolments in the cities of Montreal and Quebec had fallen by some 39%. For Quebec as a whole, there was a 40% drop in enrolment over these two decades.[2]

This decrease led to the closing of schools and many parents began to object to the disappearance of their rural or local schools. In 1977, when the Ministry of Education decided to "keep open the last village or neighbourhood school," it had to come up with the means to do so. The result: the multi-program classroom was restored to its former status to avoid closing schools and busing children, while keeping a stable pupil-teacher ratio. In the 1980s, even the large number of immigrants in urban centres could not compensate for the birthrate drop and the exodus to the suburbs, and the multi-program classroom was no longer a controversy. Educators began to study the

difficulties teachers had in such classes and to look for the advantages in order to offset the concerns of students, and particularly the concerns of parents who feared a negative impact on academic achievement.

Thus, the advantages and disadvantages of the multiprogram classroom became the focus of documents produced by school commissions or the ministry. This is the subject of the rest of this chapter.

First, I should mention that the special education sector operates largely on the principle of multi-age classrooms. Similarly, the "welcome classes" for the intensive teaching of French to immigrants include children of all ages and backgrounds. Both these sectors have developed expertise in teaching children who are different in age, learning levels and previous cultural and schooling experiences. Yet these two sectors are seldom mentioned and their specialists are rarely consulted on the multi-program classroom.

This confirms that in the multi-program, it is the program that counts. Diversity is not a concern as long as it does not have to be matched against the constraints of an official curriculum. The alternative schools, which operate along multi-age groupings, are of interest because they have not adopted these groupings out of administrative, financial or numerical necessity, but out of pedagogical choice.

Multi-program Classrooms in Sparsely Populated Areas

The main research in this area is the study by Jeanne Maheux with 93 teachers in multi-program classrooms in the Abitibi-Temiscamingue region.[3] It focused on the difficulties teachers encountered and the assistance they would like to receive to reduce these difficulties. Her analysis revealed problems associated with the following: teaching and organizing several different levels of programs at the same time, class structure of two different groupings, lack of adequate and appropriate materials, and lack of specialized support from principals, non-teaching professionals or from other teachers.

When multi-program teachers are asked who is responsible for finding solutions to alleviate problems, their choice most often points to the teacher. On the other hand, when asked about the kind of help they would like, teachers give some paradoxical answers. Respondents preferred to get help from outside, such as extra staff, rather than

to acquire the skills and knowledge that could help them, even though they had previously said that teachers were responsible for acquiring needed skills. The tendency to call for additional resources, human or material, to solve problems goes well beyond the teachers surveyed and the question of multi-program classes.

My own research[4] showed that teachers tend to exclude themselves from the levels of decision-making where they could exert their relative autonomy. They usually assess possible solutions for their ability to lighten their tasks. Maheux confirms this for the group she studied. The teachers felt disadvantaged compared to their peers (double preparation time, lower achievements, inadequate support, etc.). Maheux stressed that the regular classroom remains the point of reference for organizing the multi-program class. "In this context," she stated, "the presence of more than one age group proves to be a nearly insurmountable constraint rather than a dynamic component of classroom organization."

Multi-program Classes in Urban Settings

The multi-program classroom is fairly new in an urban setting. It has developed from reduced enrolments because of the factors noted earlier, and the inevitable closing of schools in some areas. School boards are choosing to go to heterogeneous groupings within the one school to avoid the unpopular choice of closing schools or busing students out of the neighbourhood.

Given that multi-program classes are often considered a necessary evil and cause extra problems for teachers, attempts are sometimes made to lessen the consequences through reducing class size and instituting selection criteria for pupils. The average class size is generally lower than that of single-grade classes, but this is not normally true for all classes in semi-urban or rural schools.[5] At the Montreal Catholic School Commission the average is 24 pupils.

The choice of pupils is more feasible in urban schools, which generally have more than one class at each grade level. In urban areas, only two grades are grouped, but in areas of lower population all pupils of one cycle are grouped. The selection criteria normally used are the autonomy of the pupils, absence of behaviourial problems, a record of academic achievement near the class average, and the consent of the parents. In certain cases, the teacher is guaranteed that no new students will be added during the year.

Advantages and Disadvantages

There are three major bibliographic sources available on the disadvantages and advantages of the multi-program classroom and the ideal conditions for its practice. The papers by Maheux[6] on small schools underlined the difficulties these classes cause. Perras[7] does not deny the difficulties, but emphasizes the promise these classes may hold for pedagogical change. The writers of the reports from a working group of the Chutes-Montmorency School Commission[8] examine advantages and disadvantages, but show a keen interest in the former. We mention here the opposition of the Montreal Teachers' Alliance and its emphasis on the disadvantages.[9]

Disadvantages for Children

Teachers emphasize difficulties linked to teaching the curriculum of two grades in the time normally allocated to one. They feel dissatisfied because too often a group is left to itself without having learned the necessary tools for working alone. The main disadvantages are lack of time and the difficulty younger children have in being self-reliant and maintaining concentration. Teachers lack time for individualized instruction, meaningful contact with each child, and attention to the brighter children. Some problems are even more crucial for the first-grade pupils who need a lot of attention while learning to read, write and count. There is some concern that children in the second grade are short-changed because the teacher has less time for them.

The existence of multi-program classes may cause other difficulties for single-grade classes of comparable levels at the same school. Very often it is the high achievers and those without behaviourial problems who are selected for multi-program classes. The result is that the other classes suffer an imbalance, such as from the loss of pupils who would be good role models.

To discover what children think of multi-program classes, Perras[10] conducted a study of groups from grades 2 and 5 in five classes. He found that their initial negative attitude became positive once their fears were quieted and they actually experienced the class. Their fears were mainly academic rather than affective, such as loss of friends. When the youngest were asked what kind of class they would prefer to be in next year, they tended to choose a single-grade class, while the older ones usually opted for a combined class.

Disadvantages for Teachers

For teachers, the multi-program class represents extra work, dissatisfaction with the quality of their work, and a lot of stress. They also feel isolated from colleagues in single-grade classes. The research studies stress the increased workload of adapting to double programming, more marking, and the need to demonstrate a great deal of flexibility. Said one teacher, "Two curriculums to teach, a new method of class organization, the need to redo the planning of learning and evaluation, the need to rethink the use of teaching materials; in short, it's almost another job."[11]

Disadvantages for Parents

Parents are anxious at the outset and raise most of the objections mentioned earlier, especially those related to curriculum and following up on students. Some accuse schools of making decisions solely for administrative reasons, and feel insecure about academic achievement. On the whole, parents are afraid that subjects are not treated deeply enough, older children are wasting their time and the slower ones are getting less support. However, parents can be reassured after group meetings with the school.

Advantages of the Multi-program Class

Advantages for Children

Whereas the disadvantages brought out complaints linked to the curriculum, the socio-affective factors dominate when the researchers spell out the advantages for children. The multi-program class is said to favour socialization, independence, and interaction with peers. The youngest feel more secure, demonstrate more assurance and feel more appreciated; the oldest develop a social sense and a spirit of co-operation.

Perras[12] studied the comparative academic achievement and cognitive development in math and French for pupils in combined classes and equivalent single-grade classes in the Montreal Catholic

School Commission. He found no significant differences between the two groups; when differences appeared they favoured the multi-program class. Similar results were found in a study at the Quebec Catholic School Commission. Perras concluded: "We can affirm beyond the shadow of a doubt that being enrolled in a combined class has no negative effect on school marks. Rather, the study indicates a tendency toward an improvement in scholastic achievement."

Advantages for Teachers

The teachers' list of advantages is not as long as their list of disadvantages. They emphasize the change in their role and behaviour because the multi-program class situation calls on teachers to serve more as resource persons and validators than as dispensers of knowledge. The teacher who rises to the challenge and who has motivated pupils finds the multi-program class has a revitalizing effect. Some recognize that the experience led them to reappraise their pedagogical practices and to focus on the child's total development. The positive side of the multi-program classroom is described by one teacher: "My class was composed of pupils who learn more quickly because they were chosen for certain characteristics, especially autonomy. Such pupils like school work, and learn much better. The teacher, therefore, does not lose as much time giving a lot of explanations. As well, it is a class where we can add enrichment and where there are fewer discipline problems." [13]

Advantages for Parents

The advantages for parents centre on the the variety of experiences offered, the acquiring of good work habits, the sense of discipline, responsibility and independence that children gain, and the development of positive relationships among pupils of different ages, especially the younger ones. In all, the studies show that the experience can be satisfying and enriching for parents as well as for children.

Implications for Education

Several more general problems of education can be raised. If statistical studies could prove that the multi-program class favoured

statistical studies could prove that the multi-program class favoured scholastic achievement, we could then question the interaction between the socio-affective factors (which, most agree, are positive) and scholastic success. But that presupposes we could control, at the outset, the variables of the composition of the groups on the basis of achievement.

On the other hand, the good performance of the multi-program class can be seen as an illustration of the "the Pygmalion effect." The pupils who have been chosen as capable of success, convinced with positive reasons, make that creative prediction come true. This applies to teachers as well. In many cases, teachers volunteer for the class, which leads to their selection on the basis of motivation and personal dynamism. But even when they have not volunteered, teachers know they are part of a challenging experience; they become the object of a certain amount of attention from the administration, and are consulted to share and evaluate the experience.

Best Conditions for Multi-program Classes

The literature cites, in order of priority, the criteria for selecting children: average or above-average school achievement, autonomous learners, and no behavioural or emotional difficulties. Some parents prefer children to have the choice of being placed in such a class. Information is essential for parents, as well as for the children, who are less anxious when they are told about the class or knew the teacher before. [14]

To make teacher workload easier, certain conditions are required or are desirable: lower teacher-pupil ratio, no more than two consecutive grades in one classroom, appropriate in-service training, assigning classes only to experienced teachers, support of principals and colleagues, compensation in time off for extra work, a special budget for special needs, and multidisciplinary resources such as speech therapists, educational consultants, psychologists, etc. Most of these conditions have been set down by the Montreal Teachers' Alliance. It also adds that the third and fourth year should not be combined because the first program cycle ends at the third year and the fourth year starts the second cycle. More precisely, the Alliance recommends that teachers have more time for class organization, more teaching materials, an assistant for at least a few hours a week, a place to hold

workshops, a textbook for at least every two students, and the voluntary participation of parents. [15]

Selection of Students

It is important here to look at the selection of students according to the criteria of school achievement and "normal" behaviour. Besides the elitist aspect to this selection method, might there not be other reasons to prompt an "all comers" policy for multi-program classes? The fact that the socio-affective dimensions of child development are more recognized in the multi-program class than elsewhere, the importance of rapport between peers, and the necessity of encouraging autonomy, dictates that these factors should also help students who lack motivation or who have only mild socio-affective problems. It is well known that a great many underachievement problems result from one or both of these factors. The problem of extra workload for teachers would be offset by their having fewer students than the single-program class.

Selection brings up the more general question of homogeneity or heterogeneity of classrooms. Education tends to consider group homogeneity as a sought-after ideal. It has been tried on the basis of age, but experience shows that this criterion is no guarantee. In multi-program classrooms where groups have undergone a selection process, and where the age criterion does not apply, it is common to use a criterion of "normalness," which means no learning or behavioural problems.

The choice of criteria introduces into the multi-program class a dynamic that has not generally been analyzed: that of homogeneity in the academic habits of those chosen.[16] These habits are a mixture of behaviour and ideas that allows a child to practise the art of being a student according to the expectations of the milieu.[17] The selection of problem-free students tends to group homogeneous elements together by their similar habits. By abandoning the fragile homogeneity based on age, what have we gained in exchange? We have put a group of children into a milieu that is heterogeneous in appearance (two grade levels), but this milieu presents the most homogeneity one could find, one created by a social milieu that allows students to internalize expectations, rules, habits and ways of thinking needed to succeed at school.

Fundamental Questions to Face

In concluding this Quebec literature review, it is useful to look at the alternative schools, which turn away from emphasis on program and teaching to focus on the child and his or her learning, on curiosity, spontaneity and creativity.[18] It is not surprising that these schools have multi-age groupings. The only justification for grouping by age might be a theory of establishing the curriculum and homogeneous groups of children around concepts that all would learn at the same time. To push this logic of homogeneity to its ultimate conclusion would mean grouping children according to their aptitudes and performances,[19] a possibility that the education system has often thought about but not put into practice.

As soon as one refers to an objective criterion that is easy to manage, such as age, one faces the question of heterogeneity. Indeed, only an unknown group can be homogeneous, and any so-called homogeneous group soon reveals differences. In this regard, we could consider curriculum as a unifying framework whose function, among a great number of others, is to bring about homogeneity in teaching activities in the hope of homogenizing the students' learning at the same time. But education still has to test its ability to get all students to start learning at the same time, at the same pace, and with the same success. In fact, the opposite happens. Teaching differentiates, and it is thus that another of its functions — selection — is accomplished.

Alternative schools often decry both uniformity in teaching and attempts to homogenize groups. They point out that school is the only social institution that gathers children together by age. They say that this method of artificial grouping is harmful to the development of varied relationships, including co-operation among children of different ages, and prevents their complementing one another.[20]

Multi-age groupings can, therefore, be a choice made for educational, not administrative, reasons: to give the school a lifestyle and learning milieu closest to the "natural" situation, in regard to mixed groups, at least. In this type of class, learning is individualized by necessity, but does not preclude groupings of all kinds. Children learn as much as they do in the graded and more traditional classes. As well, they benefit from the advantages cited throughout this review and in the study by Perras.[21] The multi-grade classroom does raise some fundamental questions which the education system must face. In this sense, it is not just a stop-gap arrangement, but an "analyzer" for the present organization of education.

Footnotes for Chapter 3

1. I would like to thank Claire Chaume for her help in the research for the documents that form the basis of this article.
2. J. Maheux, *Les petites écoles*, opening speech given at the seminar on small schools, Tadoussac, 15 October 1987.
3. J. Maheux, *Les difficultés de l'enseignement dans une classe à degrés multiples*, Centre for University Research in Western Quebec, Rouyn. Research Report, Government of Quebec, Ministry of Education, Education Development Branch, Educational Research and Experimentation Services, March 1981.
4. J. Hohl, *Les projets locaux dans les écoles de MSEF de l'île de Montréal*, research report (Montreal: Montreal Island School Council, April 1983).
5. J. Perras, "Le retour des `douce-amères'," *Dossier Dimensions* Montreal Catholic School Commission, Vol. 8, April 1987.
6. J. Maheux, *Les petites écoles, op. cit.*; et J. Maheux,"Les attentes des enseignants titulaires d'une classe à degrés multiples face au directeur d'école," *Information* (Revue de la Fedération quebécoise des directeurs d'école) 21:4 (1982).
7. J. Perras, *La classe combinée: du concept à la realité*, Service des études (Montreal: Montreal Catholic School Commission, June 1983).
8. *Les classes à divisions multiples ou le multi-âge*, Chutes-Montmorency School Commission, Report I, August 1980, and Report II, August 1981.
9. H. Forget-Léger, "Non aux classes combinées", *L'Alliance*, Montreal Teachers' Alliance 1 : 3 (1973); Minutes from delegates meeting of the Montreal Teachers' Alliance, 23 September 1983; and R. Dubé, president of Montreal Teachers' Alliance, press conference, 23 September 1983.
10. J. Perras, 1983, *op. cit.*
11. *Ibid.*
12. *Ibid.*
13. M. Vézina, "La classe multiprogramme," *Dossier Dimensions* (Montreal Catholic School Commission), April 1987, p. 8.
14. J. Perras, 1983, *op. cit.*
15. R. Dubé, *op. cit.*
16. P. Bourdieu, *Le sens pratique* (Paris: Éditions de Minuit, 1980).
17. P. Perrenoud, *La fabrication de l'excellence scolaire* (Genève-Paris: Éditions Droz, 1984).
18. J. Perras, 1983, *op. cit.*
19. This statement is true only if very strictly applied to the aptitude and performance required by the school and evaluated by it. Although the total child is taken into account, the range of his or her capabilities and limitations is infinitely diverse and complex.
20. Contrary to an idea currently held by a great number of teachers and parents. See J. Hohl and F. Marton-Marceau, *L'éducation sort de la bouche des enfants* (Montreal: Éditions Saint-Martin, 1988).
21. J. Perras, 1983, *op. cit.*

Chapter 4
Interpretation of the Results

THE DATA ANALYZED for this report came from three groups: superintendents or directors of education, principals of schools with multi-graded classrooms, and teachers currently teaching or who had previously taught multi-grade classrooms. Replies were received from each of the ten provinces and the Northwest Territories. Respondents represented rural, urban and combined (rural and urban) districts. The 93 superintendents in the survey represent 86.9% of the total sample of 107. The 162 principals represent 83% of the 195 in the total sample. Of the random sample of 475 teachers, 380 (80%) responded to the teachers' questionnaire. (See Table 1 and Table 2, page 4.)

The interpretation of results covers the two phases of the study: demographic data on single- and multi-grade classrooms and a typology of multi-grades and grade combinations; and administrative

practices, teaching strategies, and perceptions of teachers and principals of the effects of multi-grade classroom education on the psychosocial and cognitive development of their students.

Demographic Data from Superintendents

From Table 2 (page 4), one can see that superintendents responded from all provinces and the Northwest Territories. There were no responses from *all three* board types in Newfoundland, Saskachewan, the Northwest Territories and Prince Edward Island. However, the sample used represented all geographic areas in Canada as well as all three specific school district locales.

The population differences among the provinces means that a country-wide random sample of school districts automatically includes a larger number of districts, schools, teachers and students from the more heavily populated provinces. This fact in turn may also influence demographic findings. Differences in provincial economy also contribute to variations in demographic data and, as a result, the number and proportion of rural, urban and combined school districts.

Because of the enormous task of determining and analyzing provincial variations in school population, the study concentrated on the general trends in classroom organization and on the instructional strategies used. With this in mind, a random sample was selected from all the school districts that answered Phase I to provide a general overview of these trends. The underlying assumption was that provincial variations would be counteracted and the results balanced.

Single- and Multi-grade Classrooms

A combined total of 32,702 multi-grade and single-grade classrooms were reported by the respondents. Of this total, 5,616 (17.17%) are multi-grade classrooms and 27,086 (82.83%) are single-grade ones. Both grade types are found in all three kinds of school districts. It is interesting that more multi-grade classrooms were found in urban districts, and next in combined districts. Rural districts had the lowest frequency. (See Table 3, page 33.) These data show that multi-grade classrooms do exist in large numbers in urban and combined districts and can no longer be dismissed as only a rural phenomenon. The data

Table 3

Distribution of Total Number of Multi-grade and Single-grade Classrooms by Locale and Enrolment

Locale	No. of Multi-grade Classrooms	Enrolment	No. of Single-grade Classrooms	Enrolment
Rural	735 (13.08 %)	150,621 (14.2%)	2 998 (11.06 %)	74,561 (13.7%)
Urban	3 440 (61.25 %)	57,508 (54.4%)	16 233 (59.9 %)	256,540 (47.2%)
Comb.	1 441 (25.65 %)	33,031 (31.3%)	7 855 (29.0 %)	212,423 (39.1%)
Total	5 616	105,601	27, 086	543,524

suggest that one out of every seven Canadian classrooms is a multi-grade classroom.

Enrolment figures in the two types of classes indicate, not surprisingly, that single-grade classrooms had a higher total enrolment (543,524) than multi-grade ones (105,601). However, these figures indicate large numbers of students in multi-grade classes – approximately one out of every five students. The enrolment figures reveal that large numbers of students in urban schools are enrolled in multi-grade classrooms. For example, 14.2% of the total enrolment in rural areas were in multi-grade classes, compared to 54.4% in urban areas and 31.3% in combined school districts. The obvious relationship between these data and those on the incidence of multi-grade classrooms indicates that urban and combined districts have more multi-grade classrooms than rural districts.

Size and Locale

The data also reveal an interesting connection between the size of a school district and the organization of multi-grade classrooms within it. For example, 81.3% of the multi-grade classes and 36.9% of the single-grade ones included in the study were commonly found in school districts of 100 or fewer classrooms of each class type. (See Table 4.) *Enrolment distribution* according to locale shows some interesting patterns. (See Tables 5 and 7.) Over 75% of students in single-grade classes are in rural districts containing 3,000 or fewer students. In urban districts, over 75% of these students are in districts with more than 3,000 students. However, multi-grade classrooms are more likely

to be organized in districts containing 200 or fewer classrooms. The data suggest that when the total number of classrooms in a district exceeds 300, the number of organized multi-grade classrooms decreases.

The *distribution of multi-grade classes* by locale shows 96.4% of these classes in rural areas to be in districts with 100 or fewer total classrooms. Only 3.6% were in districts with 101-200 classrooms. Generally, it appears that school districts with 100 or fewer classrooms, regardless of locale, will have a higher frequency of multi-grade classes than those districts with more than 100 classrooms. (See Table 6.) In other words, the larger school districts with greater access to human, financial and space resources may have more flexibility in determining pupil-teacher ratios, assignment of duties and the use of available space within the school.

The *size of the school district* also appears to influence enrolment in multi-grade classes. For example, the highest enrolment in multi-grade classrooms is in districts with 1,000 or fewer students. Although enrolment in multi-grade classes decreases considerably in districts with more than 1,000 students, multi-grade classrooms still exist there. An examination of these enrolment figures by locale shows that 92.9% of the respondents in rural districts have 1,000 or fewer students in multi-grade classrooms, followed by 65.2% in combined districts and 62.5% in urban districts. Rural respondents indicted that enrolment beyond 3,000 did not exist. However, just about 25% of the urban and combined districts had enrolments of over 3000 in their multi-grades.

It appears that, regardless of locale, multi-grade enrolments are high.

Multi-grades and their Combinations

Superintendents indicated that multi-grade classrooms are organized not only in elementary, but in junior high, senior high and composite schools. Grades are combined at every level from grade 1 to grade 12. Most combinations include two consecutive grade levels; the number of three-grade combinations are negligible. A total of 5,360 multi-grade combinations were reported. The data on actual combinations show that the highest frequency is in elementary shcools, specifically from grades 1 to 6. (See Table 8, page 36.) Some 60% of combined grades are in urban districts, 23.8% are in combined districts, and 15.3% in rural districts. Most respondents said their school districts

Table 4
Distribution of Total Number of Single-grade and Multi-grade Classrooms in a School District

Total No. of Classrooms	Single-grade (N=92)	Multi-grade (N=91)
100 or fewer	36.9	81.3
101-200	27.2	8.8
201-300	9.8	6.6
301-400	8.7	1.1
401-500	2.2	0.0
Over 500	15.2	2.2

Table 5
Distribution of Total Enrolment in Single-grade Classrooms According to Locale

Enrolments	Rural (N=29)	Urban (N=33)	Combined (N=24)
1000 or fewer	17.2	3.0	8.3
1001-2000	27.6	9.1	20.8
2001-3000	31.0	12.1	16.7
3001-4000	10.3	9.1	8.3
4001-5000	3.4	18.2	8.3
5001-6000	3.4	12.1	4.2
6001-7000	3.4	6.1	4.2
Over 7000	3.4	30.3	29.2

Table 7
Distribution of Total Enrolment in Multi-grade Classrooms According to Locale

Rural (N=28)	Urban (N=32)	Combined (N=23)
92.9	62.5	65.2
3..6	9.4	8.7
3.6	12.5	17.4
-	-	-
-	12.5	-
-	-	4.3
-	-	-
-	3.1	4.3

Table 6
Distribution of Superintendents' Responses to Number of Multi-grade Classrooms According to Locale

Total No of Classrooms	Rural (N=28)	Urban (N=36)	Combined (N=25)
100 or fewer	96.4	69.4	84.0
101-200	3.6	13.9	8.0
201-300	-	11.1	4.0
301-400	-	-	4.0
401-500	-	5.6	-

had a range of at least one to five classrooms of combinations from grade 1 to 12. Next are the boards who reported over 15 multi-grade classrooms with combinations from grade 9 to 12. (Because the number of such classrooms is small, this frequency seems exaggerated.)

Table 8
Distribution of Number of Multi-grade Classrooms by Grade Combination and Locale

District	Gr. 1&2	Gr.2&3	Gr. 3&4	Gr. 4&5	Gr. 5&6	Gr. 6&7
Rural	142	88	184	114	167	52
Urban	621	547	526	516	543	160
Combined	173	141	142	140	165	46
Total	936	776	852	770	875	258

	Gr. 7&8	Gr. 8&9	Gr. 9&10	Gr. 10& 11	Gr. 11&12	Total
Rural	55	10	5	2	5	824
Urban	186	9	48	33	72	3261
Combined	88	5	102	49	224	1275
	329	24	155	84	301	5360

Reasons for Combining Grades

The principals and superintendents in all types of school districts had similar reasons for combining grades. For both groups, administrative rather than pedagogical, reasons were most frequently cited. Enrolment within a given school was given most often as the reason, followed by balancing class size, board policy, collective agreement on pupil-teacher ratio, followed by budget restrictions and use of available space. One superintendent's comment was typical: "Most schools combine classes when straight grades cannot be organized within available staffing ratios." Some principals noted other reasons such as French immersion, dual-track English/French classes, and the integration of special education and physically handicapped children.

The second highest category of responses centred on pedagogical considerations. Although these do not have the same significance as administrative factors, many superintendents and principals followed up their administrative reasons for combining grades with

pedagogical ones. These included grouping students according to ability, meeting individual needs, "giving scope for growth," independent study, a school's preference for multi-age or family groupings, and viewing the primary grades as a continuum. Other reasons were opportunities for selecting courses, willingness to experiment with alternative strategies, splitting up social patterns that cause classroom conflicts, and the advantages of multi-grade classes for social and emotional development (self-esteem). Respondents from British Columbia noted the government's mandate for un-grading the primary division.

The largest concentration of multi-grades in the lower grades in urban areas may be due partly to population mobility and financial constraints. Inner-city schools have experienced lower enrolments as the school population moves on to high schools or composite schools, or as young parents move to the suburbs. These movements can result in the need to form multi-grade classes. When families move to new residential areas, schools there often experience an enrolment increase that leads to the organization of more multi-grade classrooms.

In times of financial constraint, many school districts either impose ceilings on hiring policies or adopt a policy of cutbacks through attrition. The teacher population decreases, but the student population remains the same. The result: fewer teachers become available and multi-grade classes are formed. In some districts, school boards have a policy on pupil-teacher ratios. Such a policy, some superintendents report, leads to multi-grade classes. A depressed economy will have some direct impact on funding for education. To meet educational demands, school administrators have had to increase classroom enrolments as well as organize multi-grade classrooms. A rise in immigration would particularly affect urban boards, and unless new funding becomes available the extra demands on class size and pupil-teacher ratios could result in more multi-grade classrooms.

Teacher Respondents

Combinations of Grades Taught

The data from teachers on the grade combinations in the class they are currently teaching is generally consistent with the information from superintendents. The teacher responses showed that two consecutive grades were combined in almost all cases, and that most of these combinations (60% or more) were at the elementary level, specifically in grades 1 through 6. The highest frequency of responses

(19.7%) were the grades 2-3 combination, followed by grades 5-6, 3-4 and 4-5.

Grade combinations, however, are found at every level up to grade 12, although the frequency goes down as the grade level goes up. An interesting finding is that 28% of teachers in rural areas report an "other" category of combinations. These include one-room schools and classrooms with at least three grades. Small rural schools often offer special courses to enable students to meet provincial graduation standards and admission standards for post-secondary education. Generally, enrolments in these courses are extremely low; as a result, combinations of three consecutive grades are not uncommon.

Enrolment in Multi-grade Classrooms

Teachers report enrolment as ranging between fewer than ten students to over 35. (See Table 9.) Most responses (38.5%) showed a range of 21-25 students; 27.4% were in the 26-30 range. Some 89% of the teachers had enrolments of 30 or fewer students. Generally, most teachers (over 60%) indicated their current class enrolment as 25 or fewer students.

On the question of optimal class size, the majority of principals (92.6%) and of superintendents (93.8%) favoured 25 or fewer students. This opinion is somewhat consistent with the data from teachers, but it also indicates that desirable class size does not always translate into reality when a new school year starts.

Principals and superintendents were asked if their stated optimum class size varied according to grade combinations. As a group,

Table 9
Frequency of Teachers' Responses Indicating Enrolment in Their Multi-grade Classrooms

Enrolment	Frequency According to Locale			
	General) (N=379	Rural (N=118)	Urban (N=227)	Combined (N=15)
Fewer than 10	1.3	3.4	0.4	7.0
10-15	4.7	7.6	0.8	13.3
16-20	16.6	28.6	11.0	26.7
21-25	38.5	33.1	42.7	40.0
26-30	27.4	12.7	35.2	13.3
31-35	6.9	3.4	8.8	0.0
Over 35	4.5	11.0	0.8	0.0

most principals (76.4%) replied that variations do take place, thus showing the interdependence of grade levels and optimum class enrolment. This finding differed from the opinion of superintendents. Overall, only 58.8% agreed with principals that class enrolments vary by grade level. Clearly, the realities of fluctuating enrolments, pupil-teacher ratio, staff skills and school board policy play an important role in determining enrolments in classrooms and even the types of classrooms. Some of these realities may account for having over 35 students in some multi-grade classrooms.

Principals and superintendents gave similar administrative and pedagogical reasons why optimum class size enrolments vary. The main reason was a combination of unpredictable school enrolments and the belief that class size should be lower in the early grades because young children need more individual attention. As one superintendent put it, "Numbers vary according to the division, from lower numbers in primary grades to higher in intermediate grades, to recognize the increasing ability of older students to work with less direct supervision." Other factors include French immersion classes, integration of special education students, the staffing formula, staff experience and skills, space for classroom – and money. For one principal, the makeup of the class is the number one criterion for how he varies the size of split grades. "You have to take into account children with special needs, the social mix of the students, their work habits, varying abilities and differences in social development."

Some principals did not think optimum numbers should be affected by grade levels because the workload demand on teachers is great at every multi-grade level. "The split upper grades, such as 7 and 8, should not be more than 22 to 24 students," wrote one principal, "because both the kids and the curriculum are harder to handle." Another stated: "There's no need for variations in a division if you use the whole language approach and an activity-based program with flexibility to meet needs."

Ability Groups in Multi-grade Classrooms

More than 60% of all the teacher respondents teach in classes that are heterogeneous in composition. Some 25% group their classes homogeneously, and 12% reported a mixture of the two groupings. Nearly 60% of rural teachers and 65% of urban teachers grouped their students heterogeneously within the classroom.

The homogeneous classes appear to be organized because principals and superintendents believe that students of high ability are able to work independently, rely less on teachers for guidance, and are self-motivated in pursuing their particular interests. In such cases, the

organization of multi-grade classrooms is studied and deliberate. Some heterogeneous classes are organized because principals and superintendents believe that the mix of students contributes to more interaction, better co-operation, more effective group instruction, and more opportunities to develop interpersonal skills. However, a large number of classes are organized for practical reasons of enrolment, pupil-teacher ratio, board policy, lack of space, and simple expedience.

Teaching Experience

Teachers reported that their experience teaching in multi-grade classrooms ranged from fewer than five years to up to 30 years. However, over 43% had five or fewer years of such experience. The data show that 32% of rural teachers and 46.6% of urban teachers had fewer than five years' experience. Generally, over 70% of all the responding teachers had fewer than ten years in multi-grades. This large proportion with limited multi-grade experience is significant when placed against "teaching experience" as the major criterion stated by principals and superintendents for selecting multi-grade teachers. The data clearly suggest that teachers assigned to multi-grades are not generally selected for their experience with such grades. It appears that prevailing conditions often make it impossible to apply the stated criterion.

Both superintendents and principals listed similar criteria for selecting multi-grade teachers: experience, organizational skills, willingness to teach in and attitude to multi-grades, flexibility in dealing with instructional matters, and ability to deal with a range of student interests and abilities. Given the well-known concern that parents have about the multi-graded class, it is interesting that only one principal's criteria included "the ability to communicate with parents." One principal perhaps summed up the hopes of others when he stated: "The best multi-grade teacher is a volunteer who is not threatened by the organizational challenge of the assignment."

Data from teachers indicates that most of them were assigned in some way to a multi-grade class rather than being straight volunteers. However, it appears that a small, and perhaps growing, number of teachers do volunteer, and that some schools have deliberately chosen a philosophy of family groupings and of breaking grade barriers.

The reasons for teaching a multi-grade class vary widely, as the following comments show. "I volunteered because I liked the challenge . . . The only job available . . . I would never *voluntarily* teach in a multi-grade . . . Our staff chose to have split grades at the junior level . . . I had no choice; I've been here 11 years . . . I firmly believe that this holistic, natural approach to learning is best for the kids . . . I don't

agree with split grades . . . It was my turn; the principal tries to have each teacher take a turn in a multi-grade class."

Naturally, volunteer teachers are more enthusiastic about the multi-grade setting, as this teacher's comment illustrates: "Combination classes are more `real world.' Lumping students simply by age doesn't seem natural. Multi-age groups develop so many more skills of co-operation, independence and responsibility."

Training in Multi-grade Teaching

The majority of teachers currently teaching multi-grade classes (84.1% of them) had no special training for these classes. Only a few reported that in-service work provided some help, while others stated that no specific courses or programs on this kind of classroom were available to them. Several respondents wanted professional development days where they could talk to experienced teachers and observe their classes.

Although there have been multi-grade classrooms for a long time, teacher education institutions have chosen to ignore them. Many faculties of education in the past opted not to place their student teachers in such settings. Perhaps the current reality that their graduates are actually teaching multi-grade classes may prompt these institutions to make sure this kind of experience becomes a required part of the training for all prospective teachers.

Curricula Materials Used by Teachers

Over 80% of all teachers, across all types of school districts, use the regular single-grade curriculum in their multi-grade classes. Only a few teachers use some other curriculum, which they designed by modifying or reorganizing the regular curriculum by themes, topics or concepts. There is no evidence of any special curricula designed for multi-grade classes. What teachers report is consistent with the data from superintendents and principals.

Teachers commented on the enormous amount of time spent on trying to modify the regular curriculum around common themes and concepts for groups of students or for teaching the entire class at one time. The energy and time given to this task can be channelled into more appropriate areas of teaching if educational authorities were to work with teachers in the design of special multi-grade curricula, particularly for the grade 1-6 level.

Instructional Strategies Teachers Use

Principals and superintendents were asked what they thought were the most popular instructional strategies used by teachers. They cited the following: curriculum modification, grouping students for small and large group instruction, co-operative learning, use of learning centres, independent study, drill and practice activities, peer instruction, activity-based instruction, and rotating and alternating regular curricula. The views of both groups were consistent; the differences lie mainly in the emphasis given to each strategy. Ranking first for principals was curriculum modification (organizing single-grade materials to suit multi-grades). Superintendents generally gave priority to organizing students in small and large groups or into groupings based on the students' progress, especially in mathematics, language arts and science.

To the question on the most effective instructional strategies teachers use, principals and superintendents had similar answers. They listed grouping students, co-operative learning, independent study, curriculum integration and learning centres as their top five priorities. Teachers ranked their most effective strategies as curriculum integration for large group instruction, grouping students by large and small groups and according to progress, peer instruction, learning centres, assigning seat work while teaching other grades, project work, co-operative learning, independent study and practice and drill. In addition, a large number of teachers listed the whole language concept, structured timetables and well-organized programs of study among their most effective strategies.

It is significant that teachers, principals and superintendents have similar opinions on instructional strategies, despite slight variations in the number listed and the degree of emphasis given to each.

Where Teachers Need Some Help

The Views of Principals and Superintendents

Both groups listed areas of instruction in which they believe teachers need some assistance. Although their answers differed in frequency and rank ordering, principals and superintendents generally held similar views. The main areas include integrating curricula, organizing and managing small groups, multi-grade teaching activi-

ties, co-operative learning techniques, evaluating student progress, planning and organizing daily activities and learning materials, peer education and the discovery approach.

The Views of Teachers

Teachers gave opinions on two related questions: their most serious instructional problems, and the areas of instruction in which they would like some assistance. The top instructional problems are integrating curricula content, covering the whole curricula, individualizing instruction, lack of resource materials, evaluation of student performance, time management and grouping students. Teachers invariably cited lack of time as the cause of most of their problems in instruction and in curricula organization. The following comments are typical: "It takes twice the organization and twice the work to make each grade feel special." "I feel as if I've run a marathon by the end of the day; then I spend two hours a night marking work."

Class size was also identified as a major problem; 15 to 20 students were cited as the preferred size. Many teachers echoed this comment: "Class size, whether in a split or single grade, is the key

Table 10
Teacher Respondents' Perceptions of
Areas of Instruction in which Teachers Need Assistance

Areas	No. of Responses (N=380)
Integrating curricula content for large group instruction	367
Constructing multi-grade curricula	359
Teaching strategies for multi-grade classrooms	351
Time management	329
Teaching methods for the various disciplines (language arts, math, French, science, social studies, health)	316
Developing techniques for dealing with wide range of abilities	310
Planning daily activities	302
Developing resource materials (seat work, practice and drill exercises, etc.)	301
Individualizing instruction	300
Organizing daily instructional activities	298
Evaluating students' performance	291
Marking and correcting assignments	290
Using behaviour modification techniques	256
Record keeping	237

problem that makes it almost impossible to respond to individual needs." The teacher of a grade 2-3 class described her most serious problem this way: "One teacher and 25 or more children who range in ability from readiness to a grade 6 level." Another teacher summed up the issue in a simple statement, "A large class is a serious problem."

Teachers' comments about the areas in which they need help are generally more expansive than those of principals and superintendents and, in some ways, more inclusive. The top five areas are integrating curriculum, developing multi-grade curricula, teaching strategies for multi-grades, time management, and how best to teach the various disciplines. (See Table 10.) Teachers consistently repeated the need for special curricula for multi-grades, better and more flexible course outlines, help in co-ordinating material and advice on how to monitor and evaluate student progress.

Both the list of instructional problems and help-wanted areas show teachers' concern for practical ideas, approaches and techniques. Wrote one teacher: "I'd like ideas and guidelines on how to amalgamate certain subjects so that students are learning at their grade levels but within one program." Some teachers, particularly those with little experience, want in-service help and time to visit teachers with experience of multi-grades and observe how they teach and manage the classroom.

Generally, the views of teachers, principals and superintendents are similar. Common to each are curricula considerations, grouping of students, multi-grade teaching strategies and finding and developing resource material for study units. These views clearly show the need for intensive in-service work and a comprehensive review of practices for constructing curricula. Teacher training institutions need to revise their programs to include multi-grade teaching methods and practica in such classes. Also required is release time for teachers to prepare instructional resources, mark papers and plan daily activities. Also, special curricula need to be developed and teaching guides and related resource materials need to be produced.

Effects of Multi-grade Classrooms on Psycho-social and Cognitive Development

The review of the literature produced some evidence that students in multi-grade classrooms were not disadvantaged and did not suffer any detrimental effects from being educated in these set-

tings. In fact, researchers indicated that multi-grade students were "comparable" or "superior" in psycho-social and cognitive development to their counterparts in single-grade classrooms. In the CEA survey, teachers as well as principals who were teaching, or who had

Table 11

Frequency of Teachers' Assessments of Psycho-social Development of Students in Multi-grade Classrooms

Psycho-social Development Traits	Frequency of Assessment (%)		
	Inferior	Comparable	Superior
Independence (N=356)	2.8	44.7	52.5
Dependability (N=351)	6.6	75.2	18.2
Confidence (N=352)	11.1	69.6	19.3
Responsibility (N=354)	5.4	52.8	41.8
Co-operation (N=354)	4.2	52.3	43.5
Self-concept (N=3[illegible]	12.3	72.5	15.2
Interaction Skills (N=354)	6.5	57.1	36.4
Social Skills (N=355)	5.4	67.6	27.0
Study Habits (N=353)	8.8	72.2	19.0
Attitude towards School (N=350)	7.1	80.9	12.0

Table 12

Principals' Assessment of Psycho-social Development of Students in Multi-grade Classrooms

Psycho-social Development Traits	Frequency of Assessment (%)		
	Inferior	Comparable	Superior
Independence (N=154)	1.9	37.7	60.4
Dependability (N=153)	3.9	73.2	22.9
Confidence (N=154)	5.8	76.6	17.5
Responsibility (N=155)	0	49.7	50.3
Co-operation (N=153)	0.7	46.4	52.9
Self-Concept (N=151)	7.3	75.5	17.2
Interaction Skills (N=153)	2.0	59.5	38.6
Social Skills (N=155)	2.6	69.0	28.4
Study Skills (N=153)	4.6	66.7	28.8
Attitude towards School (N=151)	5.3	82.1	12.6

taught, multi-grades were asked to assess the psycho-social and cognitive development of their students by comparing them to single-grade students whom they had taught at equivalent grade levels. The basis for the assessments was to be their observations of students and the results of teacher tests and standardized tests. The assessments categorized development or achievement as "inferior," "comparable," or "superior."

Psycho-social Development

The questionnaire listed ten of the psycho-social traits most commonly cited in the literature. The survey revealed that nearly 85% of all 380 teachers in the sample assessed the psycho-social development of their multi-grade students as comparable or superior to that of their single-grade counterparts. (See Table 11.) The data on locale reveal that 85% of teachers in rural, urban and combined districts, as individual groups, assessed their multi-grade students as comparable or superior. When each trait is examined, the data clearly show similar assessment patterns. The inferior ratings range from a low of 2.8% for "independence" to a high of 12.3% for "self-concept."

The overall assessments by principals as a group were higher than the teachers' in all the listed traits. (See Table 12.) For more than 90% of the principals, the psycho-social development of multi-grade students in all the traits was comparable or superior to that of students in single-grades. The ratings of inferior ranged from 0.0% for "responsibility" to a high of 7.3% for "self-concept." Both teachers and principals identify "self-concept" as a trait that may not be as well developed as the others. It is interesting to note the high frequency of responses from rural principals (56.6%) for "responsibility" in the inferior category. This is puzzling because the frequency of responses from principals in urban and combined districts is 0.0% and 2.1%. In other words, 95% of the principals in urban and combined districts assess "responsibility" as comparable or superior to that of equivalent single-grade students.

It is significant that both teachers and principals are consistent in their assessments of the psycho-social development of multi-grade students in the listed traits. Each group gave some inferior ratings, but their frequency is relatively low, generally in the range of 0-15%. On the other hand, some 85% of respondents from both groups clearly indicated that the psycho-social development of multi-grade students was comparable or, in many cases, superior to that of equivalent students in single-grades.

Cognitive Development

Most of the available research on the cognitive development of multi-grade students deals with achievements in mathematics and language arts; science is included in some instances. For this study, four disciplines were listed in the questionnaire: mathematics, language arts, science and social studies. Teachers and principals were asked to assess cognitive development of their multi-grade students

Table 13

Frequency of Teachers' Assessments of Cognitive Development of Students in Multi-grade Classrooms

Area of Study	Inferior	Comparable	Superior
Language Arts (N=330)	10.6	75.8	13.6
Mathematics (N=328)	12.2	76.2	11.6
Science (N=323)	14.6	77.7	7.7
Social Studies (N = 319)	13.2	79.5	7.4

Table 14

Principals' Assessments of Cognitive Development of Students in Multi-grade Classrooms

Area of Study	Inferior	Comparable	Superior
Language Arts (N =145)	7.6	81.4	11.0
Mathematics (N =146)	11.6	80.8	7.5
Science (N =147)	14.3	79.6	6.1
Social Studies (N = 146)	11.6	82.2	6.2
Other (N = 91)	12.1	84.6	3.3

by comparing them to single-grade students whom they had taught at equivalent grade levels. The assessment of inferior, comparable or superior was to be based on teacher-made tests and standardized tests. (See Table 13 for teachers' assessments, and Table 14 for principals' assessments.)

The data show that more than 85% of teachers as a group found the achievement of multi-grade students in both kinds of tests in the four subjects to be comparable or superior to that of equivalent single-grade students. Some variations show in the locales. For example, multi-grade rural teachers gave more responses in the inferior category for each of the four disciplines than did teachers in urban and combined districts. However, more than 80% of the same rural teachers and 85% of teachers in urban and combined districts assess the cognitive development of their students as comparable or superior to their single-grade counterparts in the four disciplines. It is interesting that teachers added the category "other" under areas of study. This includes other courses in the curriculum such as biology, French, music and art. More than 80% of the teachers assess cognitive development in that category as comparable or superior to single-grade students.

More than 87% of principals as a group assess cognitive development in the four listed disciplines as comparable or superior to equivalent single-grade students. The frequency of assessments in the inferior category ranged from 7.6% in language arts to 14.3% in science. These assessments correspond closely to assessments by teachers. An examination by locale shows interesting variations. Rural principals more frequently made assessments in the inferior category than did principals in urban and combined districts. More than 74% of rural principals, however, still assess the multi-graders' cognitive development as comparable to single-grade students. More than 87% of principals in urban and combined districts give assessments of comparable or superior in the four disciplines. The similarity of the overall assessments by both groups suggests that the cognitive development of multi-grade students in the listed disciplines is comparable or superior to that of single-grade students at equivalent grade levels.

A View from the Classroom

A number of teachers and some principals wrote one-line or longer comments on the comparative assessment of psycho-social and cognitive development of students. They also noted the advantages and disadvantages of multi-grade classrooms. On the whole, the comments indicated that both groups found it easier to assess and

compare psycho-social development than cognitive development. The comments also suggested that some respondents may not be comfortable or familiar with making such assessments.

Several teachers noted that assessment of psycho-social development implies ascribing subjective values to certain traits, and that assessment also depends a great deal on the teacher's experience with both multi- and single-grade classes. Some respondents expressed doubt about the comparative "measurability" of cognitive development and academic achievement. "Clear-cut assessment is not possible," a principal wrote, "because students are a mixture of individual abilities that can change from year to year." His view is similar to a teacher's comment: "Psycho-social and cognitive development are difficult to assess because even in a straight grade the pupils are multi-graded in terms of their learning ability."

In the opinion of another teacher, "Other variables are more significant; for example, the teacher, and the fact that each class, each year, has its own dynamics. Where the power lies within that dynamic, be it with the academically or socially motivated students, has more to do with the realization of these traits than it does with the issue of single versus multi-grades." For one teacher, class size and the calibre of students are what counts in cognitive development. For another, "The whole language approach is more influential in cognitive development than being in a single or double grade."

For several principals, the development of psycho-social traits depends on the skill of teachers, the makeup of the group, the method of instruction, and general class management more than on "multi-gradedness." One principal commented, "With a teacher comfortable with multi-grades there is no appreciable difference or disadvantage with multi-grade classes when there's a well-grouped, activity-based program. For another principal, "Teachers make or destroy the multi-grade concept. It doesn't mean that multi-grades are bad, but it's the effort of teachers that make them work." The emphasis on teaching skills for multi-grades and on what some principals called "quality teaching," is somewhat at variance with the survey's data on teaching experience which showed that over 43% of respondents had five or fewer years of experience in multi-grade classrooms.

In the opinion of several teachers, homogeneous classes tend to have superior skills in both psycho-social and cognitive development, which allowed them to cover the curriculum without any problems and expand the students' horizons in all areas. One teacher remarked, "A heterogeneous grouping in a split class is a ridiculous situation. The children suffer because no matter how many times you tell weak students to ask for help, they don't, because they see that you are busy with the other grade." For another, "Students should be selected for multi-grade classes with all these listed psycho-social traits in mind.

Students who are not strong in these areas have difficulty in coping in a split grade and should be placed in straight grade classes."

The teachers and principals who commented on the advantages and disadvantages of the multi-glade classroom took strong pro and con positions. "Parents, children and teachers, in that order, hate double grades," a principal stated. One teacher has found multi-grading "to be a more natural and realistic way for children to learn; there is less competition and more co-operation," while another teacher remarked: "I don't consider any grade combinations effective because I don't agree with multi-grading." A common opinion was voiced by one principal: "Students who are easily distracted find it very difficult to complete a task if another (and more interesting) concept is being taught at the same time."

An example of contrasting views comes from two of the teachers. For one, "The multi-grade is no disadvantage for students, only for teachers!" For the other, "I continue to be delighted by the spirit of independence, co-operation and sharing shown by students in family grouping classrooms. Older children within the group develop a sense of responsibility and caring toward the younger ones. Enthusiastic learning is the result."

Some disadvantages stem from the attitude of parents. "One of the disadvantages of teaching a split class," stated one teacher, "is that you spend a lot of time justifying your program to parents. If children are having difficulties either academically or behaviourally, parents want to blame it on the split grade. Initially, parents and students often express disappointment when the child is placed in such a class. They don't understand it." Parents can also influence a teacher's flexibility in developing an integrated curriculum, as the following comment shows: "Parents object very much to double grades and to any modification in the curriculum. So, as much as possible, subjects have to be taught strictly according to grade level."

A description of some of the conditions under which teaching multi-grades can be a positive or negative experience came from the principal of a small suburban elementary school. "My experience with multi-grades in French immersion classes has been very positive for the following reasons. Classes were formed in advance; there was no last-minute reorganization due to enrolment changes. Each class had only two grade levels, and the children at each level were carefully chosen. Maximum class size was established and no new admissions allowed. The teachers were all volunteers, and support and remedial assistance was available when needed. The negative side of multi-grades showed up with heterogeneous English classes of three grades and with a high class size of 29 and 33. Many children had learning, social and attitudinal problems, and remedial assistance services were minimal. In this situation, both the students and the teacher suffered."

Chapter 5

Conclusions and Recommendations

THE CONCLUSIONS drawn from the study are organized under two sections. Phase I conclusions relate directly to demographic information on the multi-grade classrooms, the typology of grades, and the kind of curricula material used. Phase II conclusions relate to the data on multi-grade classroom pedagogy.

Phase I: Demographic Data

1. The data suggest that one out of every seven classrooms in Canadian schools is a multi-grade classroom. This is a very conservative estimate.

2. The highest number of multi-grade classrooms is found in elementary schools, specifically between grades 1 and 6. There are fewer multi-grades, generally, beyond grade 8.

3. Such classrooms are also found in junior high, senior high and composite schools. The number goes down as the grade level goes up.

4. Enrolment in the sampled single-grade classrooms (543,524) is higher than that in multi-grade classrooms (105,601). The data indicate that one out of every five students in Canadian schools is enrolled in a multi-grade classroom.

5. The combinations consist of two consecutive grades in one classroom. Very few classes had more than two grades.

6. Multi-grade classrooms with two grades are found in schools in all of the three locales. Respondents from urban districts accounted for some 60% of the reported multi-grades, followed by approximately 24% in the combined districts, and approximately 16% in the rural districts.

7. Of special importance is the noticeably high number of such classrooms in the urban and combined districts, and the high frequency of combined grades at the senior high level in these locales.

8. The size of a school district appears to have some effect on the number of multi-grade classrooms within it. School districts with 100 or fewer classrooms seem to have more multi-grade classrooms than those with more than 100 classrooms, regardless of locale.

9. No clear-cut philosophical or pedagogical reasons were found for grouping students in combined grades. The majority were grouped heterogeneously. Only a very small number were organized homogeneously.

10. Principals and superintendents have almost identical reasons for combining grades: enrolment, balancing class size according to collective agreement, budgeting constraints, use of available space, and pedagogical reasons. It appears that administrative considerations, not pedagogical ones, are the major considerations in organizing multi-grade classrooms.

11. For almost all of the principals in the study low enrolment was the main reason for combining grades. Other reasons, given

by only a small number of principals, include small staff, teacher workload considerations, and lack of adequate financing.

12. Most principals and teachers stated that between 20-25 students should be the optimum enrolment for multi-grade classes.

13. Principals suggest that the optimum number should not be affected by grade levels. Some think that enrolment should be smaller in the lower grades. In general, teachers' responses support those of the principals. Superintendents, however, believe that although 20-25 students may be the optimum number, that number may change, depending on the grade level combination, and enrolment may increase at the higher grade level.

14. Previous multi-grade teaching experience was listed as the highest priority by superintendents and principals in selecting and assigning teachers to multi-grade classes. However, the data shows that this criterion was not applied consistently. Approximately 43% of teachers currently teaching multi-grade classes have only four or five years of teaching experience. In practice, the stated criterion is not always applied and is often overridden by expedience.

Phase II: Data on Pedagogy

1. The majority of teachers in the study had ten or fewer years of teaching experience in the multi-grade classroom. An alarming number had fewer than five years of such experience.

2. More than 80% of the multi-grade teachers had no special training in teaching multi-grades.

3. Most teachers (81.5%) used the standard curriculum designed for single-grade classes. Only a few used a modified version. There is no standard set of curricula materials designed for multi-grade classrooms.

4. Principals strongly recommend the development of multi-grade curricula, as well as combining content according to themes, topics and concepts. Other recommendations included more emphasis on teaching the basics in the core and reduction of the content to be taught. These recommendations were also listed by almost all the teachers.

5. Teachers recommend that the curricula materials currently used should be modified to include certain subject areas combined under common themes, topics and concepts; that the number of courses to be taught be reduced; student-oriented activities should require less teacher supervision; there should be more time for the core subjects; and there should be more instructional materials and materials for students to use.

6. The most popular instructional strategy used by multi-grade teachers is to combine subject matter from the two grades so that it can be taught to both grades at the same time.

7. High on the list of strategies is giving one grade "seat work" while the teacher gives direct instruction to the other grade. Other popular strategies include group work, use of resource and learning centres, project work and peer instruction.

8. The three groups of respondents stated that the most effective teaching strategies used were grouping students; integrating content under themes, topics or concepts; individualized instruction; and co-operative learning. Other strategies were seat-work activities, independent research, and project work.

9. For areas of instruction in which teachers need assistance, superintendents and principals cited integrating curricula materials, group management skills, developing more effective multi-grade teaching strategies, and co-operative learning techniques. This list also included developing greater skill in planning and organizing daily routines. Teachers' responses confirm those made by the principals.

10. Teachers stated that teaching in the multi-grade classroom presents many problems. Most placed integrating curricula content at the top of the list, followed by individualizing instruction. Other problems include the lack of time for teaching some subjects adequately and for preparing materials for classroom use.

11. The areas of instruction in which teachers stated they need assistance include the development of effective multi-grade strategies for the basic subject areas (mathematics, science, reading, language arts, social studies), and the development of skills in group work, individualized instruction, and organization for teaching.

12. All the respondents had suggestions for improving the quality of instructional strategies, especially they suggested systemati-

cally designed in-service work for teachers. Other desired improvements cited were teacher exchange and observing in the multi-grade classroom, emphasis on the basics, more time for planning and preparation, the development of resource materials for teachers and students, providing curricula specially designed for the classroom and the use of teacher aides, learning centres and resource centres.

13. In assessing the psycho-social development of multi-grade students in the ten traits listed, more than 80% of all respondents stated that multi-grade students were "comparable" or "superior" to their counterparts in single grades.

14. Over 85% of respondents assessed the cognitive development in the four listed disciplines of multi-grade students as "comparable" or "superior" to students in equivalent single grades.

The study clearly suggests that, although multi-grade classrooms are growing, curriculum experts have not kept pace with the critical needs of teachers and students for specially prepared curricula and other teaching materials. On the other hand, teachers and principals appear to be doing their best to meet the challenge inherent in the multi-grade classroom and have strongly requested assistance for this challenge. Their needs are urgent and should be met without delay by provincial departments of education, teacher federations, school trustee associations and faculties of education.

Recommendations

The multi-grade classroom has emerged as a special challenge to school administrators, teachers, curriculum developers in departments of education, professors in faculties of education, parents, and students enrolled in such classrooms. The extremely high incidence of these classrooms in urban, rural and combined school jurisdictions demands special attention. The following recommendations, therefore, are proposed in the hope that the special needs of the teachers and students will be met in the following ways:

1. That school administrators give the multi-grade classroom a high priority in their plans for the next three years.

Special attention should be given to:

- A studied philosophical and pedagogical approach to the structure and organization of the multi-grade classroom;
- The selection and assignment of teachers to these classrooms;
- The highly differentiated instructional demands placed upon multi-grade classroom teachers and, therefore, the possibility of a reduced teaching load. Release time is needed for the preparation of instructional materials, marking, and the development of learning centres within the classroom.

2. That the curriculum branch of departments of education place a high priority on the following:

- The development of different curricula and materials for classroom use. This study indicates that the greatest number of grade combinations is at the lower grades in elementary school. It is at this level that modifications to the regular curricula can expediently be made to meet the special demands of students and teachers.
- The development of curriculum guides with suggested teaching strategies and relevant resource and instructional materials.

3. That provincial departments of education along with teacher federations continue to develop and implement a systematic plan of in-service work for teachers.

4. That faculties of education also meet the increasing demand for education of multi-grade teachers with special skills by reorganizing their teacher preparation programs to give attention to:

- More emphasis on and training in methods of instruction that include classroom organization, small and large group instruction, the production of instructional materials, testing and evaluation procedures.

- The assignment or placement of student teachers and interns in multi-grade classrooms for observation and for teaching practice.

- The development of courses that bring theory and practice together, centre on the special needs of the multi-grade classroom, emphasize the observation of such classroom teachers, and provide practice in working with small groups in multi-grade classes.

5. That provincial departments of education, teacher federations, and school trustee associations continue to support research dealing specifically with teaching and learning in multi-grade classrooms.

6. That research on the cognitive development of students in multi-grade classrooms be continued in order to add much-needed data to that which is now being collected.